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HEALTH MANAGEMENT ASSOCIATES

Inpatient Psychiatric Bed Registry Report

PRESENTED TO

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Executive Summary

As capacity and funding for inpatient mental health services has changed over time, it has become increasingly difficult to locate appropriate facilities for individuals in need. Inpatient Psychiatric Bed Registries (PBRs) effectively consolidate and present information on capacity in participating hospitals. PBRs are deployed in several states and have been shown to facilitate access for a relatively modest cost. Web-based PBRs allow select individuals to log in and look up bed availability at several hospitals simultaneously in a given region. In this way, PBRs are increasingly seen as a component of critical infrastructure supporting the continuum of care for individuals in acute psychiatric distress.

States considering implementation of a PBR should consider several factors that could influence how the system operates. This paper, which identifies several areas of consideration for decision-makers, is intended to streamline the decision-making process and to foment discussion to resolve these issues.

Background

In the last several decades, psychiatric care has evolved significantly in the US. Starting in the 1970s and 80s, states began to deinstitutionalize individuals with serious mental illnesses into community-based settings. Many states shuttered state-run psychiatric hospitals, and patients were able to obtain more appropriate care in their own communities. However, as inpatient psychiatric beds were lost or spread across multiple institutions, there were fewer and fewer vacancies, making it more challenging for providers to locate available beds when needed. Often, they would have to call multiple facilities, farther and farther away, with no guarantee that a bed was even appropriate for an individual in crisis, let alone available.

This scenario was borne out by research conducted by the Mid-State Health Network's (MSHN) recent report on inpatient psychiatric bed denials from March 2016 to March 2017. Over this interval, Community Mental Health Service Programs (CMHSPs) in the MSHN region reported 24,702 instances of community based psychiatric inpatient denials impacting 1,458 citizens. Most 'at capacity' denials were concentrated in just a few hospitals, while other facilities had few, clearly indicating that, with a better resource indicating bed capacity, many of the 'denials' could have located an alternative facility if information was more readily available.

The lack of an available inpatient psychiatric bed can have dire consequences and has been an issue across the country. In 2013, Austin Deeds, the son of Virginia State Senator Creigh Deeds, received a psychiatric evaluation necessitating an inpatient psychiatric bed. The ER made phone calls to several inpatient psychiatric facilities, but could not find a bed before the evaluation time frame expired. Sadly, at the time, there were available beds in other facilities that were not contacted. Less than 24 hours later, Austin stabbed his father and completed suicide. Once he recovered, Senator Deeds led the effort in Virginia to not only spearhead funding and development of a psychiatric inpatient bed registry, but to mandate its use by hospitals.

The primary purpose of a (PBR) is to prevent such tragedies by streamlining the identification of available psychiatric inpatient beds. Taking a page from immunization and other disease registries, some states began to explore the use of on-line tools to record both the number of total beds, and the number of available beds in their states. To date, only a handful of states have a comprehensive psychiatric inpatient bed registry, although they are under consideration by many others. This report

selected prioritized states to review based upon comparability to Michigan's system and access to publicly available information.

Health Management Associates, a national research and consulting firm working in the publicly funded health environment, prepared this report at the request of Mid-State Health Network.

How PBR systems work

PBR systems in all the states we reviewed work in similar ways. Hospitals and, where eligible, other facilities have a single appointed representative who is authorized to update facility information that is seen by bed seekers. This includes general information about the facility as well as information on unused beds.

An authorized user seeking a bed—someone with a username and a password—logs in and is presented with a search screen. Users are typically able to search using a variety of criteria including:

- Facility name
- Zip code
- Mile search radius (from selected zip code)
- Service type (This varies more significantly by state. See discussion below)
- Age range of patient

Once selected, systems return a list of facilities that meet these criteria including bed capacity and distance from search zip code. Each facility entry links to a more detailed facility profile page that typically includes:

- Facility contact info:
  - Name
  - Email
  - Phone
  - Address
- Total capacity
- Available capacity
- Payer information
- Admission criteria and service area

In every state, the PBR operator made sure to emphasize that the PBR was only a likely indicator of capacity; in all cases a user seeking a bed for a patient is required to make direct contact with the facility to confirm bed availability and ensure the appropriate admission process is followed.

By using this twin process—hospitals that update bed availability and users that seek beds—the PBR is able to ensure that individuals seeking care can locate the nearest facility that is capable of meeting their needs.

State Profiles

This document profiles PBRs in several states where they are in active use. In doing so, we have highlighted some of the key decisions which must be considered by policy-makers when designing and implementing a PBR. To obtain this information, researchers from Health Management Associates reviewed publicly available information and contacted individuals in each of the profiled states to interview them. In some cases, HMA was given provisional access to explore the system.

Overall, these systems demonstrate the ease with which this information can be captured and presented in a systematic way.

Minnesota

Minnesota	
Website	Minnesota Mental Health Access (https://www.mnmhaccess.com/)
Year created	2012-2013
Registry Owner/Operator	Minnesota Hospital Association (MHA)
Mandatory/Voluntary	Voluntary
Manual/Automatic Updates	Manual
Primary Users	Providers
Services Covered	Acute Care Hospital Day Treatment Intensive Residential Treatment (IRT) Services ACT Service Crisis Beds Crisis Teams Detox Partial Hospitalization Day Treatment
Served Populations	Children (0-11) Adolescent (12-17) Adult (18+) Geriatric
Key Operational Features	• Search by zip code and mile radius. • Automatic email notification if a bed becomes available within an X radius from a specific zip code • Registry used for preliminary ID of bed capacity. Still requires follow-up call to specific facility to confirm availability and initiate; • Provides phone number, key contact, etc. at each facility • Provides key information on each facility including o Information on which insurance the facility takes o Total beds, available capacity o Service lines
Other:	

Vermont

Vermont	
Website	Vermont Bed Board (https://bedboard.vermont.gov/Account/Login.aspx)
Year created	August 2012
Registry Owner/Operator	Vermont Department of Mental Health
Mandatory/Voluntary	Voluntary
Manual/Automatic Updates	Manual with a minimum update interval by bed type: All types are supposed to be updated every shift (8 hours) except the DA Residential Facilities, which are updated weekly (168 hours). Designated facility administrator is sent an email if updates are past due, with a copy going to the DMH administrator. DMH administrator contacts facility if there are no updates in 24 hours.
Primary Users	Providers
Services Covered	Crisis (Drug Abuse) Inpatient Residential (Drug Abuse) Intensive Residential
Served Populations	Children (0-18) Adult (18+)
Key Operational Features	• Search o by zip code and mile radius. o by County • Registry used for preliminary ID of bed capacity. Still requires follow-up call to specific facility to confirm availability and initiate; • Provides phone number, key contact, etc. at each facility • Provides key information on each facility including o information on which insurance the facility takes o Total beds, available capacity o Service lines
Other:	IP and Crisis facilities also receive a formal census report twice a month. The Vermont Bed Board technology vendor is the Minnesota Hospital Association, which operates the Minnesota PBR. Vermont reported that they were able to get their bed board system up and running in two (2) months, and that training takes less than 15 minutes

Virginia

Virginia	
Website	The Virginia Acute Psychiatric and CSB Bed Registry http://www.dbhds.virginia.gov/professionals-and-service-providers/psychiatric-bed-registry
Year created	2014
Registry Owner/Operator	Public/private partnership among Virginia Department of Behavioral Health and Developmental Services, Virginia Association of Community Services Boards, Virginia Health Information, Virginia Hospital and Healthcare Association
Mandatory/Voluntary	Mandatory, whenever there is a change in a facility bed census AND at least daily All public and private hospitals Legislatively required
Manual/Automatic Updates	Manual
Primary Users	Individuals working in CSBs, community hospitals, freestanding psychiatric hospitals, state hospitals, crisis stabilization units, Virginia Department of Behavioral Health and Developmental Services; emergency services clinicians, emergency department staff
Services Covered	Acute inpatient Residential crisis stabilization units (CSUs) of community services boards
Served Populations	All ages, genders, and security levels

Key Operational Features	• Search by:
	  ○ Zip code (including radius) and region
	  ○ Facility type (state hospital, CSU, private hospital)
	  ○ Age (child, adolescent, adult, geriatric)
	  ○ Gender (male/female)
	  ○ Security (locked down, open)
	  ○ Accepts consumers with Temporary Detention Order (TDO)
	• Can save 'favorite' facilities
	• Registry used for preliminary ID of bed capacity. Still requires follow-up call to specific facility to confirm availability and initiate;
	• Provides phone number, key contact, etc. at each facility
	• Provides key information on each facility including
	  ○ information on which insurance the facility takes
	  ○ Available capacity that meets requirements
	• Includes a comment box where bed details can be included by updaters
	• Includes post-search survey that includes whether the facility was called, patient was placed, and 'Status and/or reason not placed' comment box

Other	Legislation: http://law.lis.virginia.gov/vacode/37.2-308.1

Iowa

Iowa	
Website	Iowa CareMatch https://iowa.carematchweb.com
Year created	2015
Registry Owner/Operator	State Department of Human Services
Mandatory/Voluntary	Voluntary (most are reporting 5-7 days/week)
Manual/Automatic Updates	Manual
Primary Users	• Hospital Emergency Departments • Community Mental Health Centers • Courts • Law Enforcement • MHDS Regions
Services Covered	Psychiatric Acute inpatient Residential crisis stabilization units (CSUs) of community services boards
Served Populations	Adults 18+
Key Operational Features	Info includes: • Age of patients served • Whether involuntary admissions are accepted • Whether the unit is locked • Gender Preference Look-up is only a reference. To admit, hospital must be called directly (contact info provided) If admission is denied, can track reason • Pt has been or is currently aggressive • Pt has been or is currently impaired b/c of drugs/alcohol • Not medically stable • Current patient mix cannot support • Staff shortage
Other	

Operational Considerations

Mandatory/Not Mandatory and Update Frequency

All states we profiled engaged in internal debates about whether to make reporting mandatory or voluntary. In the end, only Virginia mandated participation by state psychiatric hospitals.

Generally, states reported that hospitals are reasonably good about updating their information. Iowa reported strong compliance—all hospitals update their information daily, with nearly 90% doing so by 10:00 AM. Minnesota reported the lowest compliance, but their system was the most complex—looking not just at inpatient bed availability, but a range of other services, too. Anecdotally, Minnesota reported that there were a few facilities who had data that was several weeks old; however, most facilities representing the vast majority of beds provide updates several times a day. Even so, Minnesota is considering moving towards a mandate to address the perception of waning enthusiasm to participate.

The frequency with which hospitals update their bed availability also differed by state, though this seemed more a function of operational decisions at the PBR level than a legislative requirement. All PBRs requested updates every shift (i.e. every 8 hours), but only Vermont's system sent an automatic notice to hospital administrative staff if updates did not occur at least twice per day. Iowa reported that their legislature is considering a bill mandating updates at least two times per day.

Look-up Access Control

No state provides unfettered public access to the PBR lookup interface. Lookup access is generally made available to those individuals and entities that can conduct a psychiatric assessment and referral to an inpatient psychiatric facility. This includes community mental health agencies, crisis intervention teams and hospitals. Additionally, some states provide lookup access to MCOs and nursing home staff. Several PBRs reported on-going discussions about providing access to corrections, police, and the court system, with no consensus on how to proceed. One PBR reported that they provide access to a Mental Health Court handling involuntary committal issues.

Lookup Mechanism/Process

There are strong similarities between several of the systems and how they supported the facility look-up process. The major difference concerned which entities were included in the lookup. For example, Vermont's PBR includes lookups for domestic abuse shelter beds in addition to inpatient psychiatric beds. In Minnesota, in addition to acute inpatient beds, their registry also includes slots for ACT teams, partial hospitalization, day treatment programs, and others.

Data Feed Mechanism/Process

As noted above, all PBRs currently require manual updates from hospitals to keep bed availability current within the on-line system. Iowa reported they would like to have a system receiving automatic feeds from electronic hospital bed management systems as they had originally proposed; however, the hospitals in that state had a strong preference for a manual update process.

Despite a manual process requiring regular updates, the hospitals were concerned that an automatic feed would not adequately convey important information. For example, often beds are limited by gender, or the staff compliment that is available to support violent or medically needy individuals—information that would not be available through an automatic feed but is critical for an appropriate admission.

Denial Tracking

Iowa reported that a critical point of accountability included a mechanism for tracking reasons why a potential patient was denied admission to an open bed. In these cases, often the patient is currently or was recently aggressive, under the influence of alcohol or drugs, or not medically stable.

Hosting Agency

In profiled states, the PBR was either hosted by the hospital association or the state department of mental health. There was no clear advantage to one model over the other since both seem reasonably responsive to stakeholder needs.

Funding Mechanism

Financial support for the PBR in all cases came from the state, even if the implementing agency was the hospital association. Iowa reported their funding originated with the state's discretionary portion of its Mental Health Block Grant and is part of the ongoing executive budget.

Critical Information to Convey

All PBRs we reviewed included a free-text comments field in which hospitals can convey critical information about their capacity. This includes whether their capacity is constrained by the type of patient they can support. For example, although a hospital might nominally have a bed available, they may not be able to accept another high acuity patient, or one with violent tendencies since they already have a surfeit of patients with those characteristics.

Timeline and Cost

	Go-Live Date	Implementation Cost	On-going/Maintenance Cost
Minnesota	2013[1]	Not available	Not available
Vermont	2012	$137,466	$10,800
Virginia	2014	Not available[2]	$ 25,000
Iowa	2015	Sources interviewed estimate @ $150,000 for set up and first year maintenance combined.	

Implications

The chief reason to build a PBR is to support the linking of an available bed with the individual who needs it. In this sense, all the PBRs profiled here are providing highly valuable information on the availability of community resources. Although researching denials and/or other outcomes related to a PBR was beyond the scope of this report, it seems clear from each of the states that they were broadly satisfied that the PBRs were effectively linking bed capacity with community needs, and streamlining the referral process.

One of the key findings from the use of PBRs is the changing perception from the public. Several states reported a widespread perception of a lack of inpatient bed capacity prior to the implementation of the

[1] Reported, but Vermont purchased system from Minnesota, unlikely that Vermont went on line prior to Minnesota.

[2] Initial cost not identified. Supported by Department of Behavioral Health and Developmental Services staff.

PBR. The PBR therefore helped to provide documentary evidence of available of beds, as well as any restrictions on beds. This can be valuable information to inform capacity building efforts in future years.

For those states tracking discharges, a PBR can also help to highlight capacity limitations in the community. Minnesota, for example, recently released a report indicating that one in five psychiatric inpatient bed days was potentially avoidable. In these cases, individuals cannot be discharged from the hospital because the community lacks necessary supports to receive the patient safely.

This data, including the denial data helped to highlight other, interrelated issues in those states. Iowa reported there were several cases where individuals could not be discharged because the community mental health infrastructure lacked the necessary capacity to support the individual. As a result, it would have been unsafe to discharge the patient, thereby creating a bottleneck in the state's system.

In other states—like Minnesota—the data from the PBR helped to inform efforts through 2016 as part of the Governor's Task Force on Mental Health. This report, released in November 2016, concluded that there was a critical lack of inpatient psychiatric bed capacity throughout the state, particularly for youth. However, this was compounded by similar issues noted above, where inadequate community capacity hindered a timely discharge.

Recommendation for Michigan

At a basic level, individuals in Michigan should be able to search for open inpatient psychiatric beds by searching along criteria that are consistent with other PBRs. This should include:

- Facility name
- Zip code
- Mile search radius (from selected zip code)
- Service Type (This varies more significantly by state. See discussion below)
- Age range of patient

The following operational criteria should also be considered by Michigan. Of course, these criteria should ultimately be decided through a collaborative process involving keys stakeholders to ensure thorough ideological and operational buy-in.

- **Mandatory/Not Mandatory and Update Frequency**
  States generally do not report challenges ensuring that hospitals participate. A prudent approach would be to start with a non-mandatory approach. If participation is made mandatory, a corresponding decision would be to identify consequences for non-participation and/or an enforcement mechanism, potentially alienating key stakeholders One aspect that did seem particularly promising is the feature of the Vermont PBR that automates the notification protocol for when updates are not provided. Michigan would do well to consider adopting this feature and developing a protocol that reflects Michigan's operating principals.

- **Look-up Access Control**
  At a minimum, Michigan should make look-up access available to any individuals or entity who can clinically refer a patient to inpatient services. This would likely include staff from community mental health service programs, Michigan PIHPs and State officials. Providing additional access

would be a subject for future stakeholder and planning discussions and may include ERs mental health courts and law enforcement depending upon defined protocols.

- **Lookup Mechanism/Process**
  At its base, a PBR is and should be focused on the availability of psychiatric inpatient beds. Clearly, however, the same infrastructure is capable of supporting links between users and providers of various types and this may be a consideration for Michigan. For example, it could prove valuable in linking consumers with withdrawal management beds or residential beds for individuals with a substance use disorder. Expanding the service-lines should reflect an overall strategy intended to support access to services and community needs.

- **Data Feed Mechanism/Process**
  States generally seemed satisfied with the manual reporting process and timeliness of updates. A manual update process is generally quicker and easier to set up and may be a more attractive option for these reasons. Additionally, the manual process enables hospitals to add key contextual information on the nature of their available beds (eg. some genders, not others; can/can't accept individuals with violence issues, etc.). An automatic system linked to hospital bed management systems might have more timely information, but may suffer for lack of additional and critical detail.

- **Denial Tracking**
  Tracking denials is by no means required, and an expedient, cost sensitive approach might forgo this option; however, as noted earlier, a PBR can be a crucial source of information about system capacity. Additionally, given Michigan's interest in denial tracking, and requirements around a certificate of need (CON), it should be strongly considered. This information can be vital to demonstrating on-going challenges around resources constraints, not just for individuals seeking beds, but also for those further downstream who are trying to arrange for discharges.

- **Hosting Agency**
  The issue about where to host the PBR is best resolved by key stakeholders in each state. Generally, there does not appear to be a significant difference between public PBRs (Iowa, Vermont, Virginia) and private PBRs (Minnesota), but the choice between a private PBR and public PBR can have an impact on participation rates and system transparency. For a private PBR, hospital and health systems might be able to have more direct input over the design and operational details of the system, which would encourage participation; however, relying on a private PBR may create challenges with ensuring transparency in the way that data is reported and aggregated. For a public PBR, hospitals and health systems may have concerns about the use of reported data for other regulatory purposes, which may affect participation and compliance rates; however, a public PBR may offer more transparency on how data is reported and aggregated. In a state with a high degree of trust among key stakeholders, this may not be a significant factor.

- **Funding Mechanism and Recommended Budget**
  All PBRs interviewed were funded, one way or another, by the state, which made support for a PBR part of an annual contract or allocation. Some respondents were reluctant to provide specific budget details. Based upon estimates and available responses HMA recommends that

Michigan establish an ***$ 150,000 start-up budget*** with an ***additional $ 50,000 contingency fee*** to address any unexpected overages. Michigan is a larger state than those profiled, with some system complexity and a lack of experience with this type of registry. A contingency fund would be available to address any challenges with implementation, if needed. ***Ongoing maintenance and operations would not be expected to exceed $ 25,000 annually, dependent upon addition of other capacity (see below)***.

- **Critical Information to Convey**
  All PBRs need, at base, a free text field where hospitals can convey otherwise uncategorizable information that may impact bed availability.

- **Optional Additional Capacity to Support Access to High Acuity Services**
  In addition to psychiatric inpatient capacity, HMA recommends that Michigan consider adding registry capacity for other high acuity services, either initially or over time. These services could include:
  - Crisis Residential Services
  - Intensive Crisis Stabilization Services
  - Outpatient Partial Hospitalization Services
  - Sub-acute Detoxification Services
  - Substance Abuse Disorder Residential Treatment

Conclusion

Psychiatric Bed Registries (PBR) are important emerging tools that states can deploy to create a more efficient marketplace for bed supply and bed demand. In considering whether and how to move forward with a PBR, states must evaluate a range of options—not only regarding what information is collected and presented, but including where the registry is hosted, who has access, and how to operationalize the collection and distribution of information. By making smart decisions on these areas, and engaging in a thoughtful community-based engagement strategy, decision-makers can ensure that the PBR they ultimately deploy will meet their community needs.